SCIENCE & EDUCATION Impact

Benefits From the USDA/Land-Grant Partnership

Profit Boosters

New tools and techniques improve farm profits.

An important key to farm sustainability is profit. And with disappearing farm supports, rising input costs, tight margins, and consumer demands for higher quality, any tool that can boost profits is welcome. The U.S. Department of Agriculture (USDA) and Land-Grant universities are finding ways to increase profit by improving product quality and price, trimming expenses, making the most of scarce resources, and minimizing waste. Sometimes, boosting profit involves finding new uses for old products or new ways of looking at old problems. Finding ways to do things better means not only improved bottom lines for farmers but lower grocery bills for consumers.

Payoff

- **Pickle pickers.** Improvements to cucumber harvesters made by **Delaware** agricultural engineers save $16 per acre in reduced damage. In 1997, approximately 50 percent of the growers in the Del-Mar-Va region (an area that includes Delaware, Maryland, and Virginia) adopted the improvement. The engineers also designed an on-board, oversized cucumber eliminator and recommended ways to improve harvester operation. The combined savings to pickle growers in the region was $76 per acre, totaling $314,000.
- **Hay. Hay. Hay.** Alfalfa variety trials by **Arizona** Extension identified a variety that boosts production by 11 percent, adding about $25 per acre in annual returns.
- **Better managers.** Forty ranchers on the Warm Springs Indian Reservation who attended **Oregon State** Extension livestock management courses boosted annual sales by 5 percent to 10 percent and calf crops by 15 percent. The 250 additional calves were valued at $125,000.
- **Home on the range.** Researchers and extension specialists at **North Dakota State** have developed a twice-over grazing strategy that helps producers raise 40 percent more cattle on the same amount of rangeland. The system also boosts organic matter by about two tons per acre every two years, making the rangeland ecosystem better able to survive drought, grazing stress, and erosion.

RESEARCH, EDUCATION, AND EXTENSION AT WORK

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- **Profit helper.** A computerized cotton management system developed by **Arkansas** researchers uses simple data collected in fields to make key management recommendations. The system, used on 100,000 acres in Arkansas in 1997, is also being implemented in **Mississippi** and other states. Farmers are saving $25 to $30 per acre in reduced pesticide applications.

- **Cow boosters.** Dairy farmers enrolled in a dairy record-keeping program offered by **Delaware** Extension produced 5,162 more pounds of milk per year per cow than nonenrolled farmers. The value of that milk is $774. There are similar programs in **Georgia**, **Tennessee,** and **New York**. By calving when cows are about a month younger, as recommended by **Idaho** Extension, participating farmers realize reductions in feed, labor, interest, and other expenses totaling $734,000 annually.

- **To save or not to save.** Extension agents across the country often make profit judgments on damaged crops. In **Georgia**, one agent looked at a 150-acre field of cotton stunted by cool, wet weather. His advice to let the field mature rather than replant netted the farmer $33,750. In one **Alabama** county, unfavorable early-season growing conditions threatened the cotton crop. If producers had given up, destroyed their crops, and collected insurance, they would have only recouped costs. But **Clemson** Extension recommended that most producers maintain and harvest their crops. As a result, producers made about $140 per acre in gross sales.

- **Fast apples.** A new high-density orchard system developed by **Missouri** researchers allows growers to bring trees into production two to three years earlier in order to take advantage of high demand for new varieties. An example: Gala apples sell for $30 or more per box, while standard varieties bring only one-third as much.

- **Testing for profit.** About 600,000 acres of **Minnesota** soybeans are grown on low-phosphate soils. Extension specialists teach producers to test soil for phosphate and to increase soil levels of the nutrient to boost crop yields. Field demonstrations with soils containing recommended phosphate levels show an $89 profit increase per acre.

- **Nice for rice.** Rice producers in **Arkansas** use plant nitrogen tests and new extension recommendations to save up to $30 per acre on nitrogen applications. Researchers found that new rice varieties need more fertilizer for early season growth rather than the split applications that benefited earlier varieties.

- **Same crops, new varieties.** A new soybean variety developed by **Missouri** and **Illinois** researchers is resistant to soybean cyst nematode and *Phytophthora* root rot. The variety topped yield tests. A new white wheat variety developed at **Cornell** prevents sprouting in the head under wet conditions before harvest. It has the potential to save producers $6 million in years when those conditions are present. During the last four years, the **Kansas State** wheat variety, Karl, contributed about $25 million annually to the state's economy because of improved yields and superior quality. Georgia Green, a new variety of peanuts developed by **Georgia** scientists, is resistant to tomato spotted wilt virus. It has an average yield advantage of almost 700 pounds per acre over other varieties. A peanut variety developed by **Virginia** researchers is resistant to sclerotinia blight. The variety has nearly double the returns of other commonly planted varieties.

- **Water saver.** A series of weather stations in the North Texas Plains helps 200 producers know when to irrigate and how much water to apply. In 1996, the **Texas A&M** system saved producers $18 million in irrigation costs.

- **Feed needs.** After rainy conditions reduced hay harvest in **Tennessee**, 185 farmers who participated in forage testing and ration balancing programs to stretch hay supplies saved $41 per cow, totaling $250,000.

USDA **United States Department of Agriculture**
Cooperative State Research, Education, and Extension Service

USDA/Cooperative State Research, Education, and Extension Service in cooperation with the Extension Committee on Organization and Policy and the Experiment Station Committee on Organization and Policy.

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